CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 86-80

NPDES PERMIT NO. CA0038016

WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF ST. HELENA
NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The City of St. Helena, hereinafter called the discharger, by application dated March 31, 1986, has applied for renewal of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger presently collects and treats municipal sewage in a secondary wastewater treatment plant located along the west bank of the Napa River. The treatment plant consists of a series of 5 ponds which has a design capacity of 0.5 million gallons per day (MGD) average dry weather flow. Treated effluent is stored in the ponds during dry weather months when there is no minimum required dilution provided in the Napa River. During the wet weather months, from December 1 through April 30, pond effluent is chlorinated and dechlorinated prior to being discharged to the Napa River if the discharge can meet a 50 to 1 river to wastewater dilution. The point of discharge into the Napa River, a water of the United States, is at 30° 30' 10" Latitude and 122° 26' 15" Longitude, in a non-tidal section. This discharge is presently governed by Board Order No. 81-53 adopted on September 16, 1981.

3. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for the Napa River.

4. The beneficial uses of the Napa River downstream from the point of discharge are:

   a. Municipal and domestic supply.
   b. Agricultural supply.
   c. Navigation.
   d. Water contact recreation.
   e. Non-contact water recreation.
   f. Warm fresh water habitat.
   g. Cold fresh water habitat.
   h. Wild life habitat.
   i. Preservation of rare and endangered species.
   j. Fish migration.
   k. Fish spawning.

5. The Basin Plan prohibits the discharge of wastewater which has

characteristics of concern to beneficial uses into any nontidal water, dead-end slough, similar confined water areas or their immediate tributaries. Exceptions to the above prohibition can be considered if a discharge is approved as part of a reclamation project.

6. The discharger proposed a summertime golf course reclamation project to apply secondary treated and disinfected wastewater onto an 18-hole golf course through spray irrigation. The proposed golf course site is located adjacent to and southeast of the existing treatment plant with a net irrigation area of 87.6 acres. The reclamation project is governed by a different set of requirements adopted by the Board on November 20, 1985, in Order No. 85-133. Currently, the reclamation project is under further environmental impact review.

7. The Board hereby grants an exception to the Basin Plan prohibition for this discharge to Napa River during wet weather months if wastewater is used during dry weather in a water reclamation project.

8. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 commencing with Section 21100 of Division 13 of the Public Resource Code (CEQA) pursuant to Section 13389 of the California Water Code.

9. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

10. The Board, in a properly-noticed public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT the City of St. Helena, in order to meet the provisions contained in Division 7 of the California Water code and regulations adopted thereunder, and the provisions of the Clean Water Act, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

A. Prohibitions

1. Bypass or overflow of untreated wastewater to waters of the States, either at the plant or from the collection system is prohibited.

2. The average dry weather flow to the treatment plant shall not exceed 0.50 MGD. Average shall be determined over three consecutive dry weather months each year.

3. The discharge of wastewater to Napa River is prohibited from May 1 through November 30 of each year. The Executive Officer may authorize discharge prior to November 30 or later than May 1 based on a demonstration that rainfall has produced adequate dilution in Napa River at the discharge point.

4. The discharge of wastewater at any point at which the wastewater does not receive an initial dilution of at least 50 to 1 (receiving

water to wastewater flow) is prohibited. Exceptions may be allowed by the Executive Officer for seasons having a diluting flow less than a recurrence interval of once every ten years. In these cases, the discharger is required to document all circumstances surrounding the discharge.

B. Effluent Limitations

1. The discharge of an effluent to Napa River containing constituents in excess of the following limits is prohibited:

Constituents	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
a. BOD	mg/l	30	45	60	
b. Suspended Solids	mg/l	30	45	60	
c. Oil & Grease	mg/l	10	-	20	
d. Settleable Solids	ml/l-hr	0.1	-	-	0.2
e. Chlorine Residual	mg/l	-	-	-	0.0

2. The pH of the discharge shall not be less than 6.0 nor greater than 9.0.

3. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

TOXICITY: The survival of test fishes in 96 hour static or flow-through bioassays of the effluent shall be a 90 percentile value of not less than 50 percent survival.

4. Total Coliform Organisms:

The waste as discharged, or at some place in the treatment process, shall meet the following limit of bacteriological quality:

The total coliform bacteria for a median of five consecutive effluent samples shall not exceed a most probable number (MPN) of 23 per 100 milliliters. Any single sample shall not exceed a MPN of 240 total coliform bacteria per 100 milliliters when verified by a repeat sample taken within 48 hours.

5. The arithmetic mean of the biochemical oxygen demand (5 day, 20°C) and suspended solids values, by weight, for effluent samples collected in any month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same time during the same period (85 percent removal).

6. Representative samples of the effluent shall not exceed the

following limits [1]:

Constituents	Unit of Measurement	6-month Median	Daily Maximum
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compound	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbon	mg/l[2]	0.002	0.004

(1) These limits are intended to be achieved through secondary treatment and the application of a source control program.

(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a. Dissolved oxygen	5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b. Dissolved Sulfide	higher than natural background levels.
c. pH	Variation from natural ambient pH by more than 0.5 pH units.
d. Un-ionized Ammonia	0.025 mg/l as N, annual median 0.4 mg/l as N, maximum at any time
e. Nutrients	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3. The discharger shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resource Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Pond Limitations

1. Wastewater within one foot of the surface of wastewater or reclaimed water ponds shall meet the following limits:

a. Dissolved Oxygen	2.0 mg/l minimum
b. Dissolved Sulfide	0.1 mg/l maximum

2. A minimum freeboard of at least 2 feet shall be maintained in the ponds.

3. The ponds shall be protected against erosion, washout and flooding from a flood having a predicted frequency of once in 100 years.

E. Provisions

1. The Prohibitions A.3 and A.4, and Pond Limitation D.2 of Order No. 81-53 are the bases of two current Board enforcement orders, Order No. 86-7 (a Cease and Desist Order) and Resolution No. 86-001 (referral to Attorney General), against the discharger. While the requirements prescribed by Order No. 81-53 are superseded by the

requirements prescribed in this Order, Prohibitions A.3 and A.4, and Pond Limitation D.2 of the Order No. 81-53 shall remain in effect, for the purpose of retaining the Board's enforcement authority, until both Order No. 86-7 and Resolution No. 86-001 are revised or rescinded. Order No. 81-53 is hereby rescinded under the conditions described above.

2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

   (Mass Emission Limit in lbs/day) = (Concentration Limit in mg/l) x (8.34) x (Actual Flow in MGD Averaged Over the Time Interval to which the Limit Applies).

3. The discharger shall comply with all sections of this Order immediately upon adoption.

4. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

5. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

6. The discharger shall comply with all applicable items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, or its amendment.

7. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulations [40 CFR 122.41K].

8. Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutants not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits.

9. This Order expires on November 19, 1991. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code no later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

10. This Order shall serve as a National Pollutant Discharge Eliminnation System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days

after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 19, 1986.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions, Reporting
Requirements and Definitions (April 1977)
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

F I N A L

SELF-MONITORING PROGRAM

FOR

CITY OF ST. HELENA

NAPA COUNTY

NPDES NO. CA0038016

ORDER NO. 86-80

CONSISTS OF

PART A, dated 1/78

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

Station	Description
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same location as E-001-D.)
E-001-D	At any point in the disinfection facilities at which point adequate contact with the disinfectant is assured.
E-001-S	At any point in the treatment facilities following dechlorination.

C. RECEIVING WATERS

Station	Description
C-1	At a point in the Napa River, located approximately 200 feet upstream from the point of discharge.
C-2	At a point in the Napa River, located at the point of discharge.
C-3	At a point in the Napa River, located approximately 100 feet downstream from the point of discharge.
C-4	At a point in the Napa River, located approximately 1,000 feet downstream from the point of discharge.

D. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the periphery of the wastewater treatment and disposal facilities, at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany the first report.)
L-1 through L-'n'	Located along the perimeter levee of each pond at equidistant intervals not to exceed 100 feet. (A sketch showing the locations of these stations will accompany the first report).

E. GROUNDWATER

Station	Description
G-1	A well located at the treatment plant site southeasterly of the oxidation ponds.

F. OVERFLOWS AND BYPASSES

Station	Description
OV-1 through OV-'n'	Bypass or overflow from manholes, pump stations, or collection system.

Note: Initial self-monitoring report to include map and description of each known bypass or overflow location.

Reporting - Shall be submitted monthly and include date, time and period of each bypass or overflow.

II. SCHEDULE OF SAMPLING, ANALYSIS AND OBSERVATIONS

The schedule of sampling, analysis and observations shall be that given as Table I.

III. MODIFICATION OF PART 'A'

This monitoring program does not include the following sections of Part 'A', dated January 1978: C-3, C-4, C-5c and F-3e.

Note: Part 'A' may be subject to modifications and revision. In these cases, Part-'A' should be replaced by the modified/ revised version. However, the discharger will be given an opportunity to review the proposed changes in Part 'A' prior to the final adoption.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 86-80.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Effective Date: NOVEMBER 19, 1986

Attachments: Table I

TABLE 1 (1)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A (2)	E-001 (2)			E-001-D/E-001-S (2)			All C (2)	All P	All L	All OV	G (5)	
TYPE OF SAMPLE	C-24	G	C-24	Cont.	G	C-24	Cont.	G	O	O	O	G	
Flow Rate (mgd)	D			D									
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	W (3)		W										
Chlorine Residual & Dosage (mg/l & kg/day)					2H	or	Cont.						
Settleable Matter (ml/l-hr. & cu. ft./day)		D											
Total Suspended Matter (mg/l & kg/day)	W (3)		W										
Oil and Grease (4) (mg/l & kg/day)		2M											
Coliform (Total or Fecal) (MPN/100 ml) per req't					4/W							3M	
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste						3M (6)							
Ammonia Nitrogen (mg/l & kg/day)			3M										
Nitrate Nitrogen (mg/l & kg/day)			3M									3M	
Nitrite Nitrogen (mg/l & kg/day)			3M										
Total Organic Nitrogen (mg/l & kg/day)			3M										
Total Phosphate (mg/l & kg/day)			3M										
Turbidity (Jackson Turbidity Units)		D						M					
pH (units)		D						M					
Dissolved Oxygen (mg/l and % Saturation)		D						M					
Temperature (°C)		D						M					
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO<2.0 mg/l) Total & Dissolved (mg/l)		D						M					
Arsenic (mg/l & kg/day)			Y										
Cadmium (mg/l & kg/day)			Y										
Chromium, Total (mg/l & kg/day)			Y										
Copper (mg/l & kg/day)			Y										
Cyanide (mg/l & kg/day)			Y										
Silver (mg/l & kg/day)			Y										
Lead (mg/l & kg/day)			Y										

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A (2)	E-001 (2)			E-001-D/E-001-S (2)			C (2) All	P All	L All	OV All	G (5)	
TYPE OF SAMPLE	C-24	G	C-24	Cont.	G	C-24	Cont.	G	O	O	O	G	
Mercury (mg/l & kg/day)			Y										
Nickel (mg/l & kg/day)			Y										
Zinc (mg/l & kg/day)			Y										
Phenolic Compounds (mg/l & kg/day)			Y										
All Applicable Standard Observations		D						M	W	W	E		
Nutrients (ug/l chlorophyll a)													
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)			Y										
Chloride, mg/l												3M	
Total Dissolved Solids, (mg/l)												3M	
Un-ionized Ammonium as N, (mg/l)								M					
River flow rate, cfs								D					
Volumetric dilution rate (river flow to wastewater)		D						D					

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (used when discharge does not continue for 24-hour period)
Cont = continuous sampling
DI = depth-intergrated sample
BS = bottom sediment sample
O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwaters stations

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December
4/W = 4 days per week

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

FOOTNOTES FOR TABLE I

(1) During any day when bypassing occurs from any treatment phase(s) (primary, secondary, chlorination, and dechlorination) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:

a. When bypassing occurs from any primary or secondary treatment unit(s), composite sample for BOD, total suspended solids, oil and grease (influent and effluent), grab sample for settleable matter, and continuous monitoring of flow.

b. When bypassing chlorination process, grab sample for coliform (total and fecal), and continuous monitoring of flow.

c. When bypassing dechlorination process, grab sample for chlorine residual (continuous or every two hours), and continuous monitoring of flow.

(2) Sample when discharge is being made to the river.

(3) Influent samples and analyses for BOD and Suspended Solids required weekly during the period when discharge is being made to the river. During the no discharge period when wastewater is being stored or reclaimed, monthly sampling and analyses of BOD and Suspended Solids for influent samples is required.

(4) Each Oil and Grease sample shall consist of three grab samples taken at two-hour intervals during the sampling date, with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values based upon the instantaneous flow rates occurring at the time of each grab sample.

(5) Prior to taking the groundwater samples, well shall be pumped a minimum of five minutes. In addition, depth of each well (feet), depth to water (feet), and depth of sample collection point (feet) shall be reported.

(6) Effluent samples for fish bioassays must be dechlorinated prior to testing.